gesture by checking if an additional stroke is entered within a predetermined distance of the first received stroke and within a predetermined period of time following the entry of the first stroke. For example, a user enters the lower portion of a bracket gesture and enters the upper portion of the bracket as separate strokes. If the upper portion is entered within a predetermined distance from the lower portion and if the upper portion is entered within a certain amount of time following the entry of the lower portion, then the CPU will assume that it is a multiple stroke gesture.

If the stroke is determined to be part of a multiple stroke gesture in step **220**, then step **222** is implemented. In step **222**, the previously-entered gesture portions of the multiple stroke gesture are added to the newly-inputted stroke. All of the strokes of the gesture are thus combined into a single gesture and are treated henceforth as a single stroke. The CPU assumes that a multiple stroke gesture does not include the circle-type gesture of step **76'**, and thus the process continues to step **86'** and the fuzzy gesture recognition steps.

If the stroke is determined not to be a multiple stroke gesture in step **220**, then the process continues at step **76'** with the circle-type gesture recognition. The remaining steps of flow diagram **70'** are similar in function and implementation to the corresponding steps described with reference to FIG. **3**.

Although only one embodiment of the present invention has been described in detail, it should be understood that the present invention may be embodied in other specific forms without departing from the spirit or scope of the invention. For example, although one form of the invention has been primarily described with reference to circle-type gestures, it is equally suitable for use with other geometrical shapes. Similarly, other gestures besides the bracket and pigtail gestures described herein may be recognized by the present form of the invention, including letters and other symbols. Further, the described process for correlating a normalized stroke with a gesture prototype is only one of several possible correlation methods. Therefore, the present examples are to be considered as illustrative and not restrictive, and the invention is not to be limited to the details given herein, but may be modified within the scope of the appended claims.

What is claimed is:

1. A method for recognizing a gesture input on a display screen for a computer system, the method comprising the steps of:

(a) processing a stroke entered on a computer screen to smooth said stroke, said stroke including a plurality of points, said processing step including reducing the number of points that define said stroke such that said points of said smoothed stroke are located at least a threshold distance apart from one another, and including the substeps of:

(i) calculating a position for a new point that is positioned between two adjacent points in the stroke that are separated by less than the threshold distance; and

(ii) replacing a plurality of points that are separated by less than the threshold distance with said new point, wherein the weight given to the location of a specific new point is proportional to the number of points that are replaced by the specific new point;

(b) normalizing said smoothed stroke;

(c) determining whether said normalized stroke matches one of a plurality of gesture prototypes; and

(d) when at least one gesture prototype matches said normalized stroke, selecting the gesture represented by a best matched gesture prototype as an interpretation of said stroke.

2. A method as recited in claim **1** wherein two adjacent points that are separated by less than the threshold distance are replaced with said new point.

3. A method as recited in claim **2** wherein said steps of calculating a position and replacing said two adjacent points with said new point are repeated until all of the remaining points in the stroke are separated by at least the threshold distance.

4. A method as recited in claim **1** wherein said step of normalizing said stroke includes a substep of storing selected points of said smoothed stroke in at least one prototype buffer.

5. A method as recited in claim **4** wherein said step of normalizing said stroke includes the substep of storing coordinates of said selected points of said stroke in said prototype buffer, wherein horizontal coordinates of said selected points are stored in a first prototype buffer, and said vertical coordinates of said selected points are stored in a second prototype buffer.

6. A method as recited in claim **5** wherein said step of normalizing said stroke includes the substeps of:

subtracting an offset value from each coordinate; and

dividing each coordinate by a scaling factor.

7. A method as recited in claim **4** wherein said step of normalizing said stroke includes the substep of storing coordinates of said selected points of said stroke in said prototype buffer, wherein said stored coordinates are normalized coordinates.

8. A method as recited in claim **4** wherein said prototype buffer stores up to a predetermined number of selected points, and wherein said selected points are distributed approximately along a full length of said stroke.

9. A method as recited in claim **8** wherein said selected points are selected approximately as every nth point of said stroke, wherein n is calculated as the number of points in said stroke divided by said predetermined number of points in said prototype buffer.

10. A method as recited in claim **4** wherein said step of determining whether said normalized stroke matches one of a plurality of gesture prototypes further includes the substep of calculating a plurality of scores, each score indicating the correspondence of said normalized stroke to an associated one of said gesture prototypes.

11. A method as recited in claim **10** wherein said step of calculating a plurality of scores includes calculating a standard deviation and a Pearson's Correlation for said points stored in said at least one prototype buffer.

12. A method as recited in claim **10** wherein said step of selecting said gesture represented by the best matched gesture prototype includes selecting the gesture prototype having the highest of said calculated scores.

13. A method as recited in claim **12** wherein said step of selecting said gesture is accomplished only when said highest score is above a predetermined threshold value.

14. A method as recited in claim **10** wherein said gesture prototypes include standard gestures including an open bracket gesture and a close bracket gesture operative to select an object displayed on said computer screen.

15. A method as recited in claim **14** wherein said standard gestures include a pigtail gesture operative to delete an object displayed on said computer screen.

16. A method as recited in claim **15** wherein said gesture prototypes include gestures inputted by a user, each gesture representing one of said standard gestures.

17. A method as recited in claim **1** further comprising a step of determining whether said stroke is part of a multiple stroke gesture, and adding said stroke to stroke portions